

**Summary of the  
Field Measurements *Ad Hoc* Committee  
July 30, 1997**

The NELAC *Ad Hoc* Field Measurements Committee was called to order by chairman Barton Simmons at 9:00 am. Committee members present were Anne Marie Allen, Daniel G. Bivens, Maude Bullock Steve Davis, Cliff Glowacki, John Hosenfeld, Marlene Moore, and Wynard H. Nimmo.

The chairman outlined the agenda as presented on page 16 of the standards book. He asked for additional agenda items and discussed the role of *ad hoc* committees and their operation. There were no additions to the agenda.

**Results of Field Activity Survey**

The chairman distributed copies of the results of the Field Activities Survey. The questionnaire had been broadly distributed and was on the web page. Over 40 of the questionnaires were returned. The chair thought that a reasonable cross-section of interested persons had responded. Indoor air and industrial hygiene activities had lower responses. Higher responses were returned indicating interest in water sampling and air emissions. The results of the survey are intended to help establish standards and to set priorities.

**Reports and General Discussion**

Comments on the survey were then entertained. One committee member said that the results of this survey tell him there is an increasing understanding of the need for field standards and that there is also a need for a permanent field studies committee.

Dan Bivens gave a report from the Policy and Structures Committee regarding discussions of certification of individuals. He and J. Hosenfeld had teleconferenced with Policy and Structures committee members specifically regarding certification of air emissions testers. There were semantics problems with the use of the term "certification." The education and experience aspects of the discussion were acceptable. The P&S Committee members believed the responsibility should fall on the company employing the emission testers rather than on the individual. A term such as "qualified individual" was acceptable. It was decided to strike the use of the term "certification" of individuals.

Hosenfeld noted that a past study had found a need for some type of qualifications for source testers. Such qualifications would raise data quality and increase users' confidence in the data. The question is "what kind of standards could be set for training and what standards should be required of individuals who would lead the source sampling teams and see that work was done properly?" Attributes of source sampling personnel such as education, experience, and understanding of the method, could also apply to other field measurement areas.

Marlene Moore stated that the Program Policy and Structure Committee philosophy is that qualifications, experience, etc are items intended to cut across all areas of NELAC/NELAP.

An audience member noted that existing certification boards or organizations could be approached to design certification programs suitable for NELAP needs. Why reinvent the wheel if certification groups already exist? Hosenfeld said that the programs of CIH and others were studied. Since states will be one of the primary certifying agencies, the committee wanted to keep the process as broad as possible and not exclude anyone. Perhaps an existing national certification program could be restyled to fit our needs. A third party would be involved. D. Bivens spoke about inherent governmental functions. First, should we have accreditation? If so, the government should write the standards and then a third party could administer the standards. Simmons asked how widespread the DOD programs were. They include underground storage tanks, wastewater, safety and health, and hazardous waste, among others. Oral and written exams are also given. M. Bullock remarked that DOD now has a working group on Environmental Services and Testing. Certification of chemists is an item on their agenda, specifically those chemists who work at mobile sites. The process is just beginning. Paperwork will increase, tracking will be required, and costs must be considered in deciding whether to conduct a pilot study. She estimated that an initial report will be out in about 6 months that will say whether or not a pilot study should begin, but not how it is to be done. M. Bullock will report back to the committee on this matter and that Kevin could give an overview of this later today.

The suggestion was made to look at the Quality Systems Committee for a plan of the way a laboratory may certify chemists. Bart Simmons sees a need for more details, but he doesn't want to propose a certification program in general, but rather to recommend training, experience, etc be required for field studies where sampling is so important. There have been discussions in ELAB to consider "expanding the universe" of participants. Some trade journals such as "On Site Measurements" may want to carry articles about this topic. Joan Fisk noted we should be careful not to discourage people; requirements at the individual level may be discouraging; instead, work at the corporate level. Marge Prevost noted some cross-cutting items that had come up in the Accreditation Process Committee yesterday. Where does one draw the line between a "mobile laboratory" and "field testing?" Seems to be a gray area. D. Bivens saw this as being due to the wide disparity of sample types. It's important to follow the method. Simmons noted that we may also be considering the analyses of many organic compounds that fall outside conventional laboratory techniques. It is difficult to place the burden of certification at just one place in the system.

D. Moore noted there is a semantics problem with the meaning of "laboratory." The ISO definition would include even the simplest field setup. People need to be briefed on this. OSHA has set a definition of "laboratory." Their ideas may be applicable to NELAP. Dealing with so many laboratories could become an administrative headache for states. Some have inspectors for radon and lead in homes, for instance. Hosenfeld said our intent is to deal mainly with compliance and regulatory areas. However, some locations may use an untrained person to take samples whose analytical results may eventually be used in compliance assessment. Simmons noted that the Quality Systems Committee dealt with several big issues on compliance and its scope. An XRF spectrometer in the back of a truck may be part of a compliance effort. This issue needs further discussion.

A. M. Allen expressed concern that there is often a weak communications link between what goes on in field sampling and the home laboratory. How do program-specific DQO's (Data Quality Objectives) relate to the quality system? This is a huge issue for the Quality Systems and

Field Measurements Committees. Quality systems must be in place for all components of a program. We need consistency so the Quality Assurance Project Plan (QAPP) will come together properly and work effectively. Bart Simmons noted that we should build on existing systems, particularly those of a national scope, such as hazardous waste programs. M. Moore noted for Chapter 5, Quality Systems, that even though certification may be in place, a proficiency demonstration would still be needed. We must have a realistic goal. Some field samplers may not be able to read well, etc, and contractors would have to hire more highly trained personnel and costs would rise.

### **Status of and Schedule for Proposed Standards Drafted by Hosenfeld/Bivens**

The proposed standards should be rewritten to avoid the use of the word "certification." No problem here. The standards are at about the same point as they were at the Interim Meeting; however, most of the criteria mentioned are already included. Some reformatting would be necessary to fit in the idea of quality systems comments. An appendix would be most appropriate. Bivens noted that source testing is the focus of the standards as written thus far. Other activities could be added and the wording could be "generalized." Perhaps we could work with Chapter 5 people (Quality Systems) to assist in drafting an appendix regarding sampling needs. Simmons asked that Hosenfeld and Bivens redraft their document to include some other air measurements and that he would see that copies are distributed to the Field Measurements Committee. An audience member suggested that we de-emphasize education requirements and emphasize on-the-job-training and experience. The education requirements for soil testing may be quite different from those of source sampling. Bivens remarked that the team leader of a source sampling group must have appropriate qualifications; the technicians working under the team leader do not need the same level of education. A. M. Allen suggested a tiered approach to education and training requirements, based on the job to be done by the individual. In the accreditation process, the "person of record" is designated as the one responsible and accountable for the work; he or she will have "sign-off" authority. Must look at Chapter 4, "Accreditation Process."

### **Presentation by Maude Bullock and Skip Darley of Navy's Sampling and Field Testing Procedures Manual**

M. Bullock prefaced her remarks with her recollections of problems she has seen with sampling techniques, sampling containers, and of clients who had no idea which analyses to ask for. The "garbage in/garbage out" principle will apply unless minimum quality standards are established and implemented on the sampling end of a project. Recent Inspector General reports on EPA and DOD have been at times critical of sampling and analysis portions of programs. We cannot meet NELAC/NELAP goals unless minimum quality standards are established.

The Navy has, based on the ISO Guide 25, established a minimum set of quality standards for sampling and analysis. This demands that a quality systems document be in place. Chapter 25 of the Navy's Environmental Operations Manual led to preparation of a manual called "Navy Environmental Compliance Sampling and Field Testing Procedures Manual" (NAVSEA TO300-A2-PRO-010). M. Bullock will send a copy of the document to anyone who requests it.

Bullock believes that sampling is a science, not an art, and must be taken seriously.

Samplers must understand why they are sampling. The engineer who manages the project and the analysts in the laboratory also must understand the integrated nature of the process. Development of the Navy policy document has taken about 2 ½ years. Some did not want the manual due to the anticipated increased costs. The document is in response to a Navy-wide requirement that will apply to both in-house and contractor studies. A draft document on field testing is in preparation and expected to be issued in 1998.

Skip Darley, NAVSEA, was introduced. He gave an overview of the manual. Some of the highlights of its contents and ideas are:

Presents training and guidance requirements for sampling personnel, including a formal training program and ways to show proficiency in actual field test situations.

Navy shipyard personnel who actually do the sampling were convened to discuss ideas and help draft the document. It is written in easy to understand language.

Various sample matrices are discussed. All procedures are written in a step-by-step format. There are many diagrams and illustrations. All the information is under one cover in a tabbed, loose-leaf binder. Pages can be easily removed and copied for use or distribution.

There is a references section with information on quality control, what to look for in a contractor, etc. QC and QA protocols are given.

## **Discussion of the Navy Manual**

Following the presentation, several questions were asked about the manual. The manual does not treat radiological testing. This is done in another branch at the Navy. A caveat is included to remind samplers that they must first check the local or state regulations to see that all of their sampling requirements are also satisfied. There will be two mock-up training locations to provide real-world instruction to field personnel. D. Bivens noted that QA checklists and QA systems should be in place so the firm who hires a field or source sampling firm can check off items and thus be assured that the testing firm is going to carry out the tests properly. Simmons said that examination of the Navy's Chapter 25 and the supporting field testing procedures document should be an action item. We want to see if it can be used or modified for NELAC/NRLAP purposes.

## **Committee Recommendations**

Chairman Simmons then proposed and the committee discussed a list of recommendations to be made to the NELAC.

1. Standards should be established for field measurements.
2. NELAC should not certify individuals but should have requirements for individuals

involved in field activities.

3. Field activities should include field sampling and field measurements.
4. Find a mechanism to incorporate QC activities related to field activities into the standards, perhaps as an appendix to Chapter 5, or wherever else appropriate.
5. The committee supports performance-based measurement systems.
6. Establish a Field Activities Standing Committee.
7. Broaden participation of firms involved in field activities.

Some discussion and comments followed. Project-specific DQOs were mentioned. The Navy's Chapter 25 and supporting documents need to be evaluated by the committee before making final decisions. ASTM Chapters 9 and 10 of SW846 are being revised, according to Barry Lesnik. We may be able to build on these chapters.

### **Action Items**

Chairman Simmons listed several action items. These are:

1. Please send him comments on the survey the California EPA conducted regarding NELAC interest in Field Measurements.
2. See that the Navy Chapter 25 policy and supporting documents are made available and that review comments are sent to him and to the Navy.
3. Reserve a spot on the NELAP Board of Directors' next agenda to present and discuss our committee's recommendations.
4. Define the meaning and scope of "Field Activities."

The meeting was adjourned at 1:00 pm by the chairman.